

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." . . . VIRG.

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AGRICULTURE.

ADDRESS

Of JAMES M. GARNETT, Esq. President of the Fredericksburg Agricultural Society, delivered at their last Semi-annual meeting, at the Farmers' Hotel, in Fredericksburg, on Tuesday the 23d of May, 1820; and communicated for publication in the American Farmer.

GENTLEMEN,

Your ready adoption of our late remonstrance, which has occasioned so many unwarrantable attacks, not only upon ourselves, but upon all the agriculturists of our native state indiscriminately, justifies me in believing that the political rights of agriculture are not less dear now to the members of this Society, than they were at that time. And it inspires the hope, that it will not be unacceptable to use the present occasion for still farther endeavouring to illustrate them; rather than to occupy the time in those agricultural details, which on ordinary occasions might be deemed more suitable.

Although we have escaped by God's mercy the destructive consequences of the new tariff recently rejected by the Senate of the United States, there can be no doubt that the advocates of this most pernicious policy, will redouble their efforts at the next session of Congress. This circumstance, together with the vital importance of the question, will, I trust, be considered a sufficient apology for the present address on the part of one who has lately been forced in self defence, to occupy a much larger space in the public prints than he wished: and who since he met you last, has had access to some important documents and other information that he could not then procure, calculated as he believes, to give great additional weight to those arguments heretofore urged against the policy of taxing foreign commodities in the way proposed.

It has been matter of much astonishment to many, that a measure so deeply interesting to all; a measure most obviously calculated vitally to wound, if not absolutely to prostrate the two great national interests, Agriculture and Commerce; with the exception in the first case of some two or three hundred sugar planters—and in the other, of the few engaged exclusively in the home-coasting trade, should have been within two or three votes of succeeding. But for this, the individuals who were to be the victims of so ruinous a policy, may in a great measure thank themselves. Whilst petitions, memorials, and pamphlets innumerable were pouring in from all quarters to Congress, on the part of the manufacturers—whilst the newspapers were teeming all last summer with their publications; the commercial men, comparatively speaking, said little or nothing; and agriculture, the great supporter of all other interests, appeared (to use the very appropriate figure of Sir H. Walpole,) as willing "to be sheared" as ever—having made no public opposition that I have heard of, except in three solitary cases; although the agriculturists constitute fully three-fourths of the whole nation. I have good reason to believe, that this most unaccountable silence on one side, and clamour on the other, got many votes against the tariff in the first branch of the national Legislature—enough probably to have defeated the measure in the outset, as it passed by a very small majority. It is hoped, however, that our late escape will effectually cure the supine of their fatal negligence; and that not a single member of Congress will be suffered to return next November, without being fully apprized of the opinions and wishes of his constituents on this most momentous question. No one has occurred

probably, since the organization of our government, more important to the prosperity and happiness of this nation. Not that it assumes any very serious aspect at present in a pecuniary point of view; for it addresses itself to the mind's eye, only in the form of a certain per centage upon foreign commodities; but it involves the alarming principle that Congress has a right to tax, *ad libitum*, all the other great interests of the community for the exclusive benefit of one only; and to create by force, at the expense of a majority of the nation, any trade, profession or calling, that they may fancy will be useful. But if they possess this power, what other need they have to accomplish any purpose, whether salutary or mischievous, which they please. In making this remark, I have no wish to express the slightest doubt in regard to the patriotism of our national Legislature; but merely to recall to your recollections that cardinal maxim of our constitution, which can scarcely be too often repeated—that, as no power was given but such as was believed to be absolutely necessary to the purposes of good government—none should ever be exercised, but such as has been expressly and clearly delegated.

The individuals to be benefited by the proposed measure, compose, even according to their own admission, only about 3-16ths of our whole population; although it is manifest that when you deduct from this number, all that portion of manufacturers who have publicly said, that they wanted no additional duties, together with those numerous artisans who depend for their support on the prosperity of our foreign commerce, this deduction will probably reduce the assumed three-sixteenths fully one half. For these then, and the two or three hundred sugar planters, eight or nine millions of citizens, consisting of agriculturists, commercial men, artisans dependent on commerce, and every other trade and profession, except the petitioning manufacturers, are to be taxed, and taxed, until they can pay no more! If ever there was a complete illustration of the fable wherein the goose that laid the golden eggs was killed in order to get all at once—this case supplies it. The parable fits in all its parts; the mistaken avidity of the operators can be surpassed, only by the folly of the victims of the operation; for none but geese, one would think, could quietly submit to be thus eviscerated.—Even the petitioning manufacturers themselves, if they exercised a common degree of foresight, would plainly perceive, that the accomplishment of their wishes as to the tariff, so far from affording them all the benefit which they anticipate would in fact injure them in various ways. It would inevitably introduce by smuggling, considerable quantities of foreign goods of particular descriptions, which exempt from all duty would then contend against their manufactures of similar kinds, whilst it would cause those which paid duty, as well as their own of the same sort to come so much higher to the consumers, as to reduce the profits of agriculture still lower. This would certainly compel our planters and farmers to make all those articles within themselves, which they manufactured in a domestic way, during the two wars which we waged with England. Indeed, it is a fact within my own knowledge, that this process has already commenced in many families upon a very extensive scale: and had the new tariff been adopted, would have been carried much farther, both from prudential considerations, and from feeling the measure as an act of injustice to themselves. It may, perhaps, seem strange to those who are so fond of taxing agriculture, to be told, that it is *their* interest, even more if possible than *ours*, to foster this great source of national wealth by every legitimate means; I will not say *equally* with commerce and manufactures, but above them both, if inequality of protection must ex-

ist any where. And the proof of this assertion is so plain, that "he who runs may read." It consists in the following self-evident fact:—Agriculture being the producer of all food which is indispensable to life itself, the agriculturists must first feed themselves, before any thing can be spared to feed others. But these men will not aim to raise more than enough for bare subsistence, unless they have a prospect of good profit for their extra labour. It becomes then, most demonstrably the interest of all those who are not agriculturists, to encourage those who are, in raising as much surplus produce as possible; because it is upon this surplus and upon this alone, that they must all depend, in the first instance, for subsistence itself, and in the second place, either directly or indirectly, for the means of carrying on their respective trades, professions and callings. This view of the subject can never be too much insisted upon; for this single fact, it appears to me, is the one by which the whole policy of every government, in relation to agriculture, should be regulated. The more she flourishes, the greater will necessarily be the prosperity of commerce; and the better will be the prospect for establishing such manufactures in the country, as can maintain a permanent stand therein, without taxing and oppressing either agriculture or commerce to sustain them. Even, if her prosperous condition result in some measure from what are called protecting duties—the greater part of which she herself pays, being the greatest consumer; still it must continue to operate beneficially, upon all the other interests in the community. Whereas, if the prosperity of commerce and manufactures are produced by the protecting duty system, agriculture, the mother of both, must have her profits diminished nearly to the full extent of what she is made to pay for this protection, and although hard to kill, may finally be nearly destroyed, as the case of England herself—the most commercial and manufacturing country in the world, has most irrefragably demonstrated.

The circumstances under which this new tariff was proposed, are not less remarkable, than the avowed object of it. For the first time, since the government commenced, a system of duties upon imports has been proposed, exclusively for the purpose of forcing manufactures. I say *exclusively*, because the Secretary of the Treasury declared, when called upon, that if adopted, it would probably diminish the revenue for several successive years, at least six millions of dollars. The measure was proposed too, at a time when a deficit of about five millions of dollars was declared in our treasury, which could only be supplied by loans, or taxes, at a time that the means of paying the latter, had been diminished more than half, by the reduced prices of agricultural products. None of our financiers, from Mr. Hamilton to Mr. Crawford, had ever ventured to recommend any system of duties upon imports, *especially* for the purpose of forcing manufactures. They were all avowedly for revenue; and if they achieved any other object, it was incidental. Hamilton's report in 1791, Gallatin's in 1810, and Dallas's in 1816, were designed, as I believe, rather to recommend a judicious distribution of the supposed necessary external duties amongst the subjects on which they were chargeable, than to create new branches of industry, or to supply a revenue not required. Mr. Crawford's late report, to which I have already referred, speaks for itself. Should our consumption of foreign commodities remain, as in the last year, of which there is any return, that is 1818, near six millions of dollars would have been added by the proposed tariff, to our taxes, and this for the avowed purpose of forcing manufactures. Although the consumption will, in all probability, be much less, still the proportion between the actual revenue, which

it is believed will not exceed nineteen millions, and the additional taxes that we should have had to pay, had the new tariff been adopted, would have been as \$6,000,000 are to \$21,000,000, which was about the amount of the revenue for 1819. But this was not the only blow that the agriculturalists, or rather the *pay-all class*, as I think it would be much more suitable to call ourselves, were fated to sustain, had the whole tariff project succeeded. A part of the scheme was to make all importing merchants pay cash duties for the greater part of their importations, thereby sweeping at one blow, all our foreign commerce, except that which is carried on by a very few enormous capitalists, whose support of the tariff this admirable contrivance to create an importing monopoly, would certainly have secured. And lest this additional effort to render us completely dependent on our domestic manufacturers, should not accomplish the object, the few goods that might find their way here from foreign countries, were to be subjected to another heavy tax when sold at auction. This, it seems to have been calculated, would enlist in favour of the tariff a very considerable support in those large commercial cities where the whole of these auctions are made, and at which almost all the goods that supply the southern states are purchased; but very few merchants, comparatively speaking, south of the Potomac, having sufficient capitals to be large importers. This auction tax, therefore, would have fallen principally upon southern agriculturalists, who, if they venture even to breathe a murmur against such glaring injustice, are to be advertised in most of the newspapers of the union, as a set of selfish, ignorant, parsimonious inhuman beings, alike destitute of sense, knowledge, feeling and patriotism. I will not call the mode in which this tripartite association of the tariff, the cash duty, and the auction bills, was managed, *legislative bargaining*; but without doubt, it much resembles it, and will certainly be renewed, unless those who are to pay the whole cost interpose with their instructions, to prevent the ruinous game.

Nothing, I think, can be more manifest, than that the general interests, both of navigation and commerce, as well as of agriculture, are opposed to prohibitory duties for forcing manufactures; yet, several members who represented the two first of those interests, were found voting for the tariff, which they ought not to have wanted; because, coupled with the cash duty and auction bills which they *did want*, under an idea, I presume, that they would benefit particular interests in their great cities. Yet when the tariff bill failed in the Senate, the re-consideration of the auction bill was moved; for the purpose of rejection by some of the very gentlemen who had voted for its passage, when re-considered the first time; for it twice underwent this most convenient legislative process. But thus it is, my friends, that we trouts and guanas, are titillated and lulled asleep, until we are fast bound in fetters, of which it will be somewhat too late to complain, after we are throttled and tied.

I think myself warranted in affirming, that, at no period since we were united under our present government, has any attack half so alarming been made upon the general interests of agriculture, navigation, and commerce, as this combination and triple alliance of destructive bills presented; yet most wonderful to relate, the portentous mischief seems to have produced scarcely any sensation among those who were to have been the victims of it, until after the danger was past! "Ah! (says one) we have had a most fortunate and narrow escape!" "Yes, truly, (replies another) by God's providence we have missed it for this once; and it will give us time to talk the matter over with our representatives before next session.—Somebody surely, will stir in the business, so that we need not take up trouble upon interest." "Aye (exclaims a third) that Senate is a good thing after all, although we do sometimes complain of it. When we are so guarded at all points, why should we concern our heads about public affairs. It may be well enough however, as this is a matter of more than common interest, to give our members a hint or two, should we fall in with them before the next meeting of Congress." Yet "to-morrow and to-morrow," and next session and the next, will probably come, and

and find us still confiding that it is impossible for any thing to go wrong where we elect our representatives every two years! Oh no, the thing is quite contrary to all fire-side, easy-chair calculation; particularly if we have three or four good-humoured friends, and a bottle or two of generous wine to assist in our prophecies.

With the exception of two amiable memorials, the one from Salem in Massachusetts, and the other from the Chamber of Commerce in Philadelphia, (although there may have been others.) I have seen nothing from our mercantile friends, who, if possible, are more deeply interested than we are; and as to our agricultural brethren, they have in almost every instance, I believe, given the national legislature reason to infer, from their silence that they were not averse to a scheme which would have capped the climax of their present difficulties and distresses. Such indifference as to our rights; and such apparent carelessness in regard to the means of preserving them, is truly unaccountable.

Amongst the many extraordinary efforts made to recommend the new tariff system, it has been said, that agriculture was protected by certain duties far beyond what she had any right to claim; and therefore that manufactures were also entitled to an equal excess of protection over and above their fair proportion. Admitting the first part of the proposition to be true, it amounts to nothing more, than that one error in legislation sanctions another. But let us for a moment examine the ground of the declaration itself, which is not less erroneous in point of fact, than it is in other respects. The following articles have been enumerated, as taxed to benefit agriculture:—spirits, sugars, cheese, coals, manufactured tobacco, snuff, cotton, hemp, tobacco in the leaf, potatoes, rice, wheat, beans, oats, pitch, tar, turpentine, beef, pork, hams. Of these, neither the duties on coals, manufactured tobacco, nor snuff, are any more in favour of agriculture than the duties on cloth, muslins, or felt hats. Agriculture in fact, is the *payer*, not the *receiver* of these duties. A very large portion of the others enumerated above, are merely nominal, as no similar articles from foreign countries could be afforded here, even if there was no duty, at such prices as our Planters and Farmers usually obtain, for what they sell. Leaf tobacco, I believe to be the only exception among those on which the duty is rated at 15 per cent.; and this operates very partially, as only a small portion of our tobacco planters make such tobacco as we import. The two duties about which the greatest clamour has been raised, I would most willingly see greatly reduced—I mean the duty on spirits and sugar. Although I have no doubt that it would be a great blessing to our country, could the use of ardent spirits be prevented altogether; yet as that is an utterly hopeless wish, I would ask upon principles of common humanity, if it would not be better, that our people should be poisoned, (since poisoned many must be) with tolerable good rum, French brandy and real Holland's gin, than with intolerably bad deleterious whiskey, sour cider, brandy and gin made of whiskey, turpentine, and soap! As the destructive process would be much longer in accomplishing, which is clearly proven by the number of years that a soaker of "the olden time" required to kill himself, compared with the very brief space which the modern proficient in this species of self-immolation, takes to achieve the same end—a better chance for reformation—a greater hope of amendment of life might be afforded. But the fact is, that this duty, like all the others, falls principally upon agriculture, instead of being received by her; the consumption of foreign spirits being much greater by agriculture, than either by commerce or manufactures, simply because the agriculturalists compose by far the most numerous class, and all consume their full proportion. As to domestic spirits, I do not believe they could well be lower, than at present, if there was no duty. But the tax upon spirits, as well as that upon wines, operates in another, and still more pernicious way against agriculture, besides what she pays for their consumption. The wines and the spirits of the West Indies, of France, Spain, and Portugal, which are either excluded, or diminished in their

consumption here, by our duties on these articles, used to be purchased, chiefly by the products of our agriculture. Our sales of produce therefore, are evidently lessened in all these countries to the full amount of the quantity which, but for these duties, we should give in exchange for these wines and spirits. The revenue too, which would certainly arise from their importation, were the duties considerably lessened, would greatly contribute to diminish the deficit. But if we must have high duties on spirits, let it be on all, both foreign and domestic. No article could bear it better; the consumers alone would pay, and if it would have the effect of materially lessening the consumption, the act would deserve the Nation's blessing.

In regard to the duty on sugar, first imposed solely for revenue, it is most obvious that the great body of agriculturists are much oppressed by it; as they all, with the exception of some two or three hundred sugar planters, consume it, without making any. This duty operates in fact, as a bounty to these few individuals, who without any such aid, would still make a greater profit from their capital, than if it were invested in any other branch of agriculture, and who diminish the revenue to the amount of all the duty on such portions of foreign sugars as are excluded by those of home growth; at the same time, that by this exclusion we lose the sale in the West India markets of all the provisions and lumber, that we should otherwise exchange for them. What makes the matter worse is, that the sugar planters of Louisiana want nothing scarcely that we make; and must be paid in money for the greater part of what we buy of them. With bread-stuffs and every other agricultural product, they will soon either supply themselves, or receive them through some of the numerous tributary streams of the Mississippi, at the grand mart for western and south-western commerce, the city of New Orleans. From the same rapidly increasing source we shall also soon be supplied with domestic molasses and rum, to be paid for, *not in produce*, as is the case when we purchase these articles in the West Indies, *but in cash*. This also will diminish the revenue arising from foreign rum and molasses, and augment the necessity for direct or other internal taxes, at the same time, that a still further diminution in the sales of our agricultural products must necessarily take place. Yet the agriculturists of the South Atlantic states, must not only, *not complain*, but submit silently to be reproached with receiving the benefit of taxes which they actually pay, and which are grinding them to poverty, as fast as the operation can well be performed—all which, and much more they will deserve, if they continue as heretofore, to take it for granted, that because the agriculturists constitute a very large majority of the whole nation, nothing can be either attempted or done, destructive of their best interests. An overweening confidence in their own strength; a proud consciousness of their own power; a rash belief in their own influence over the national councils, have kept them silent on many occasions, when every consideration of prudence, and of safety required, that by a public expression of their wishes and opinions in regard to their own interests, they should avoid the hazards resulting from that species of legislation in which questions of the highest possible importance are left to the decision of our representatives, without any guide in relation to the opinions of their constituents, but such as vague conjecture supplies. If under such circumstances they suffer, they surely have not much right to complain—for if the steed be stolen, because we are either too careless or too lazy to shut the door, who but ourselves are the primary authors of the loss?

Should this address appear to any of you, gentlemen, to have deviated too far from the usual routine of our business, I must appeal for my excuse to certain occurrences, with which some of you, possibly, may be as yet unacquainted. From the moment of the publication of our remonstrance, up almost to the present period, we have been assailed from various quarters with numerous addresses and publications—some of which I have thought it incumbent upon me, as your representative, to endeavour to answer; not so much on account of any seeming argument that

they contained, for most of them appeared to have been manufactured by the same prolific head, which in the number of yards, that a few very scant materials have been made to run to the pound, has far surpassed the power of any of the spinning Jennies designed to be vindicated against our supposed hostility—having spun a thread of so attenuated a fibre, that “the filmy gossamer” itself is quite a cable-rope to it. But the web of impalpable texture fabricated therewith, was interwoven with so much personality, both against ourselves, and all the agriculturists of our native state, that justice to our cause appeared to me to require that something should be said in our defence. If I have done wrong in noticing these unprovoked attacks, the motive must plead my apology. One or two of them, after hearing who were probably their authors, I have passed in silence; for the same reason, that we get out of the way as fast as we can when we meet certain obscene and offensive quadrupeds, to whom by universal consent it is deemed no act of cowardice “to give the road”—the apparent disgrace of retreat in all such cases, being far more bearable, than the odour of victory.

In the cases where I attempted our vindication, it being impracticable at this time, to give you the whole ground of defence, I have endeavoured in the preceding address to condense the substance of it, that I might meet what I presumed would be your wishes on this subject. I shall now conclude, and will trust to the usual kindness with which you have heretofore received all my communications, for a reception not less favourable to the one which I have just had the honour to deliver.

FOR THE AMERICAN FARMER.

THE PROFESSION OF

A Planter or Farmer.—No. 4.

Since the happiest experience has proved, that the cultivators of the earth may be as opulent and illustrious, as *Washington*, let us proceed to inquire into the means of making us a people great in the profession of agriculture; intelligent in its theory, bright in its practice.

The foundation of general education are laid in the common schools of the townships, hundreds, parishes, villages, boroughs and cities. We will denominate those schools, for reading and writing, *the primary schools*. From the natural equality of men, these schools must contain the same proportion of sound and strong minds as our academies, colleges and universities. In these little scenes of puerile instruction, teachers should be preferred, who have a talent and knowledge in farming, fruitery and gardening. They should have a suitable teacher's glebe, as part of their support, and for the exercise of the industry, talents, care and management of the children. The teacher should study to instruct them in the practice, course, and reasons of culture. He should have a manual of the farmer's profession, out of which portions should be read as exercises. It would be worthy of the wisdom of the state legislatures to offer a premium, in money, to such persons as should compose and compile the best hand book for that purpose, which should be printed in a plain, cheap volume for those schools, and for the families of planters and farmers, male, and female. Women are often distinguished in gardening and fruit, and are respectable in the economy and management of a farm. Cuts or plates, exhibiting “the me-

chanic powers,” the lever, the wedge, the inclined plane, the screw, the pulley, with their uses, advantages, and reasons, or principles, would be highly amusing and deeply instructive.* Competition, in little sections of the teacher's ground, as to kinds, qualities, and quantity, would have an excellent effect.—Every parent or guardian would cheerfully supply his child or ward, with seed for his little section of the teacher's ground. Approved tools should be a subject of particular consideration. Whenever ground could not be obtained, or cultivated, such a book as has been mentioned, would be highly favourable in its effects upon young minds, and most so in the cases of the children of the ignorant, the unskilful, the poor and the unwise.

The neighbouring heads of families should send to the teacher, a constant supply of articles on agriculture from newspapers and pamphlets, specimens of fine wool, or curious seeds, fruits, plants, engravings, tools, implements, utensils, ores of lead, iron, copper, tin, &c. clays, ochres, new improvements, processes, inventions, &c. &c. as they might fall into their hands from time to time. After securing one for himself, every planter and farmer should send one to the teacher. These two effects would be produced, the teacher and the pupils would acquire a variety of useful knowledge pertinent to culture, never to be forgotten, and the pupils would carry it home to their fathers and relations, and thus diffuse knowledge, and increase its activity, at least among the uneducated.

In the next class of schools above the common or primary, and below the colleges, which we call in America, *Academies*; the same means may be used to excite to agricultural instruction, reading, observation and reflection. It may be done in a more accurate systematic and extensive manner. Dictionaries of agriculture; concise systems, Dictionaries of the branches of art and science connected with culture, may be easily and cheaply introduced.—The superior professors would be warned on the subjects, by the opening of it, proposed in the common or primary schools, and assisted by conferences and correspondence, with the most powerful men among the practical farmers and planters of their vicinity and acquaintance. The best American and foreign writers may be consulted,

* Two Indian warriors were shown a beautiful pair of compound brass pulleys, in the college of Philadelphia. Each block had perhaps a dozen sheaves, and was about as large in circumference as a common tumbler, and capable of receiving only a good silk bobbin of the thickness of the tenth of an inch.—The two stout red children of nature were told by the interpreter, that a little boy then before them, would force them, by those pulleys to come together. Each seized one of the double blocks by the hooked metal handle, and stood at a distance from the other, of about three or four feet. The little boy began to draw the cord, and forcing the Indians to approach by the power of the pulleys, the Indians with a little passion on their faces, set foot to foot against each other, and endeavoured to keep apart. The child, who was instructed, pulled upon the string, and laughed archly. The Indians struggled, with violence and rage, using all the force of their arms, legs, and weight to keep apart, but to their great mortification, were brought together, with the scotch-blocks of those powerful little pulleys. No pupil in the college library, no savage of a dozen there ever forgot that practical lesson upon the power of the pulley.

and the branch of landed culture in our academic economics may be rendered delightful, ornamental, beneficial and accurately, technical and scientific. Annual, quarterly, monthly or weekly discourses of teachers and exercises of pupils, happily mixed, might be practiced. A regular compendium for the exercises of the pupils, is as easy, and proper in this branch of economics, as in those relative to money in coins, money of account, commerce, government, &c. They are all embraced in the enlarged system of moral or habitual or customary or practical science of the economy and business of human life; which is strictly “moral philosophy” or “moral science.”† It must not be apprehended, that these ideas are too formally learned and scientific for the business of farming, for it is a truth, that it is the real, simple and valuable character of the present times, that the commonest things are no longer done by guess, by mere practice, fashion, custom or imitation. It is known, that there are philosophical principles and technical processes for boiling spinach making butter, cheese, soap and bread, constructing a spinning wheel, or loom, making maple sugar, fermenting home brewed ale, cider and wine, distilling spirits, as real, true and sure as the principles on which the Almighty Maker of all things has created and ordained the motions of the spheres that roll throughout the universe.—Genuine Philosophy, in its correct sense, is the whole system of principles on which God has made, preserved, and applied every thing from the atomic dust of the balance to the stupendous luminary of the universal frame. Our philosophy is all we know of this immense mass of divine wisdom; and it may be safely affirmed, that the profession of a planter or farmer rightly understood, involves more of its temporal materials, than any other single pursuit in life, not even excepting that of the learned Doctor in the healing art.

It will naturally follow from what has been advanced, in regard to our common or primary schools, and more reputable academies, that the infusion of a knowledge of the principles and arts of agriculture into the minds of the pupils in our colleges and universities arises as the next duty, and in a superior degree. It is by means of the learned professors, the excellent books, in the routine of instruction, and the invaluable collections, which fill their libraries, that the maturing student elevated by means of the two lower schools, may search into the whole round of our subject. He may thus obtain the best modern and tried knowledge of the earth, its theorists and its operators, its cultivations, its seed, its productions, its miscarriages, its methods of prevention, support and cure, and all its scientific and technical instruments, means and auxiliaries. Here too the professors and the students may perform the delightful task of exemplifying all the science relative to agriculture, in the various crops of the neighbouring estates, preparing the youthful

† Moral science does not mean mere ethical or virtuous science; but the science of the whole system, or economy of civilized life, from the rules and operations of families and men of business in every line, to those of corporations, states, governments, and nations.

minds for the next and most important stage of their juvenile instruction.

It is now proposed to submit a proposition, which may appear new, or at least not to be yet practised in the United States.

It appears expedient to adopt in the education of our sons for the profession of a planter or farmer, a measure which is common and approved in every other walk of busy life. The youthful pupil in the ministry of religion is placed by his parent or guardian, as a regular student of divinity, under some suitable established minister, of talents, learning, and virtue. The pupils of the law and in medicine are placed in similar situations, with established practitioners of talents, learning and probity. Young men intended for the profession of architects, masons and other branches of the fine and useful arts, are treated in the same judicious and faithful manner. If the profession of the planter or farmer, is to be rendered more profitable and distinguished, for talent improved by knowledge and experience, it is obvious, that a like measure, in the last stage of the education of the rising generation, intended for rural life is worthy of further serious consideration.

CINCINNATUS.

FOR THE AMERICAN FARMER.

PROCEEDINGS OF THE

Agricultural Society

OF ALBEMARLE, (VIRG.)

ON THE ROTATION OF CROPS.—No. 2.

Bremo, May 8, 1820.

It seems to be admitted among the enlightened agriculturists of the present day, that a rotation of crops is necessary to the most productive cultivation of the soil. And hence, what is the best rotation? has become one of the most important questions in the science of agriculture.

From the great variety of soils, difference of climate, and the peculiar nature and habits of the various cultivated plants, it is manifest there can be no rotation, that will be found applicable in all its details, to any large portion of a country so much diversified as the state of Virginia.

Where the circumstances of soil, situation, and crops are similar, a great obstacle to the extension of a salutary uniformity of practice, is experienced in the want of precision in the language of agriculture;—especially in relation to the nature and composition of soils; so essential to be adverted to in every agricultural experiment, in order to arrive at similar results; insomuch that the best efforts may fail of giving the precise information intended to be communicated. And to this cause may be attributed in some degree, no doubt, the great variety of courses which we frequently find pursued under similar circumstances, and the same course under circumstances quite dissimilar.—We can hope for no remedy against this state of things, but in the extension and improvement of agricultural knowledge. When in its progress, it shall have advanced agricultural chemistry to the elevated level of the other sciences, and classified the soils with the same precision that botanists have arranged the plants, and

mineralogists the fossils of the earth—thus giving to agriculturists a scientific and definite language, in which they may communicate with the certainty of being understood, then, and not till then, can we anticipate, that the noblest and most useful of the occupations of man, will advance in improvement with the rapidity of the other branches of useful knowledge.

The rotation I have adopted has objections to it; but as I have not yet been able to settle in my mind the best means of obviating them, I shall submit it to the society with some of the remarks in favour of and against it, which have occurred to me in the course of carrying it into practice rather with the hope, that it may hereafter draw forth something for the interest of agriculture, than the expectation of its containing any thing new or important.

A considerable portion of my arable land consists of river bottom, on which I pursue quite a different course. The following rotation is that which I pursue exclusively on the high, hilly land adjacent to the river. The soil is a mixture of clay and sand in various proportions; the clay generally predominating in that degree, which makes it more favourable to the growth of wheat than Indian corn, often intermixed with broken stone, slaty gravel, and occasionally round pebbles; and for the most part on a substratum of hard and poor clay, within easy reach of a two horse plough.

Upon land of the foregoing description, I follow a six field course, in the order of 1st corn, 2d wheat, 3d clover, 4th clover, 5th wheat and 6th pasture.

Indian corn being an article of the first necessity with us, as it is the staff of life to all the labour employed in agricultural operations, whether of man or beast, is at the same time admitted to be the most exhausting of all the crops we grow. While the first consideration therefore renders it indispensable, the last recommends limiting it to the smallest portion of the arable surface, that will be adequate to a sufficient supply for the consumption of the farm. To pretend to make it for market in this part of the country, may be pronounced bad husbandry, without the fear of contradiction. One sixth part of the farm, appears to me to be as small a proportion, as we can venture upon in the present state and habits of the country; and if all manured will prove more than sufficient for the object.

To counteract, as much as possible, the deterioration of the corn crop, I apply all the manure I can make to this field. The rate at which I use it, is twenty-five loads of thirty bushels each to an acre. In order to be accurate and uniform in the quantity I check the land with a plough fourteen yards each way, and lay a load at the intersection of the furrows. The effect has been on an average of years (excepting the last year of unusual drought) to give me four barrels or twenty bushels of corn from the acre, on land which in its natural state yields about two barrels. The succeeding wheat crop yields twelve or fifteen bushels, according to the season, and the ensuing clover crop is rendered much more certain.

I have been induced to direct every effort which could be spared from other objects to the

accumulation of manure, from the conviction that the mere effect of any rotation, even with the assistance of plaster on the clover, will not upon my soil produce the great and speedy improvement to which we ought to aspire. On many parts of my farm I have not yet been able to discover such effects from the plaster, as to justify the expense of using it; but I have continued to use several tons every year, hoping upon the authority of the Reports of Judge Peters, that the beneficial effects which are there stated sometimes to remain dormant for years, will be finally developed. My experience so far has brought me to the conclusion, that the liberal use of manure regularly recurring once in every rotation, is the only basis to be relied on for great and lasting improvement, upon any soil of like nature to that upon which I am operating. It may be objected, that the quantity of manure required to cover one sixth of the arable land of our farms will be found to be more than can be made; but we are told that in the best cultivated counties of England they manure one fourth annually. It is true, I have hitherto fallen far short of one sixth, which I have fixed for my ultimate accomplishment, in order to attain the full benefits of my scheme of improvement and profit; but I am far from thinking it unattainable, inasmuch as I have not brought to my aid many resources common to every farm; and much of my labour has been heretofore employed in clearing land.—It is well understood among the best farmers of England, that from every head of cattle kept on the farm, from ten to twelve loads of manure may be made.

I will here mention the practice I have adopted in the management of my manure;—which I find prepares it earlier for use, and renders it more effectual, than when put out in the coarse state in which it is usually found the first spring after it is made. I have it dug up the last week in February, or the first in March, by which the fermentation is so much hastened as to rot it sufficiently to be in a better state for promoting the growth of corn, by the latter part of March, or the first of April,—the time for casting it out. I have been disappointed in using manure in the coarse and rough state in which it is generally found without this second fermentation. Corn-stalks and wheat-straw with the dung of cattle fed on these only, will not ferment although thrown into large masses as above-mentioned, in time to be carted out for corn. To accomplish this process in due season, there must be some mixture of stable manure, that from the fattening hog pens, or some other materials with more of the virtue of fertility in them. I believe it may be assumed, that the value of manure is in direct proportion to the value of the food of the stock from which it is made.

My corn is always (except on the first year's new ground) planted in horizontal rows;—these rows are kept as nearly as possible on an exact level, by frequent repetitions of the use of the rafter level at different elevations of the field, and running the remaining and intermediate furrows parallel to these. When these horizontal beds are once laid off, care is taken to preserve them through all the subsequent

steps in the rotation; observing to plough two corn beds into one for wheat when fallowing the clover field. These are easily divided again when the corn crop comes round into the rotation, by the eye of the ploughman, without the necessity of the rafter level.

Such, in my opinion, are the advantages of the horizontal husbandry in hilly and rolling land; in preserving that degree of moisture in the land required by the corn crop, in preventing the destructive effects of washing rains, and in diminishing the labour of tillage to man and beast, that I would not accept the labour as a gratuity to cultivate my hill land with the condition of following the old fashioned mode.

From the first year's clover field, I cut hay and save clover seed; and as a compensation for taking off the two crops of the first year, I give the second year's clover entirely to the land; but this practice is not approved by some of the best informed farmers. Mr. Randolph Harrison of Cumberland, the most successful and judicious cultivator of my acquaintance, thinks by deferring the fallow to the second year's clover, there is more loss from the hard and untilled state into which the land gets, than is gained by turning in the entire clover crop. I must admit I have been disappointed hitherto, in the produce of my fallowed fields, and from present appearances this part of my crop is likely to fall shorter of my expectations than ever. This I have ascribed to the unfavourableness of the late seasons for fallowing, and should our summers continue to be as dry as they lately have been, summer fallows can no longer form a part of an advantageous course of husbandry. In my pasture field, I rely upon the volunteer clover which succeeds the fallowed wheat, and find it generally thick enough to improve the pasture considerably. I have as yet not ascertained the proportion of stock I can pasture to the acre,—an important point to be settled in every system of husbandry, which looks to manure as a principal source of improvement. But we may readily conclude, the experience upon this subject, in a climate so entirely different from ours as that of G. B. cannot be taken by us for a guide. It is manifest, however, if no more than twelve loads of manure can be made from each head of stock, that all we fall short of two head of cattle, or an equivalent in smaller stock, per acre of that portion of the farm devoted to pasture, must be made up by compost, burnt clay, lime, or other resources, in order to manure one sixth of the farm at the rate of twenty-five loads to the acre.

The estimate of ten or twelve loads per head, I understand is made upon cattle pastured a part of the year, and stalled, littered, and well fed through the winter: if they are soiled in Summer as well as stall fed in Winter, a much larger quantity of manure may be made per head than that above-mentioned.

JOHN H. COCKE.

P. MINOR, Esq.

*Sec'y of the Agricultural
Society of Albemarle.*

CATALOGUE OF AN AGRICULTURAL LIBRARY.

The following letters from three of our illustrious countrymen, were put into our hands by our worthy

friend and valuable correspondent, Geo. W. Jeffreys, Esquire, of North Carolina, to whom they were addressed; we give them in the order of their dates.

Caroline, Port Royal, Aug. 16th, 1816.

DEAR SIR,—Yours, of the 29th ult. has just come to hand, and I wish I could answer it more satisfactorily. Of the agricultural books which I have, most have been compounded from theory, and have tended chiefly to prove that fine writers may be bad farmers. Arthur Young alone seems to me to occupy the station among agriculturists, which Bacon does among philosophers. He makes records, and reasons, with great perspicuity, from a great variety of experiments. He was a practical farmer and a good writer. His works, under the titles of annuals, travels, &c. are very extensive, and would alone, as they extend to about 20 octavo volumes, constitute a valuable agricultural library. They may probably be had in Philadelphia.—Several volumes published by the Agricultural Society of Philadelphia, are particularly valuable, as being better adapted to our soil and climate, than most foreign books; and as treating miscellaneous, of a great variety of subjects. It is true that some of them do not apply to the meridian of your country; but others do. This objection however exists to most books extant upon the subject of agriculture, as the great variety of soils and climates, must unavoidably infuse into them a great portion of locality, so far at least as they are bottomed upon experiment. Intelligent readers will find no great difficulty in accommodating their principles to particular circumstances. Even Tull's work in this view may with advantage be admitted into your library, for although he carried his enthusiasm in favour of ploughing too far, yet it is a species of enthusiasm not likely to be very detrimental to our country. His errors are, an unnecessary exposure of the soil to the sun by too frequent ploughings, and too low an estimate of the value of manures. A late publication of professor Davy, containing a concise chymical analysis of manures, is the most scientific, and comprehensive work I have seen on that subject, and seems to me to accord best with the modern ideas of agriculture. If you had these books, together with the proceedings of the board of agriculture in England, of which Sir John Sinclair is president; you would probably possess as good an agricultural library, as is to be met with in the United States.

My live cedar hedges, are getting to be very beautiful. A gentleman who viewed them near a year ago, who had travelled much over England, assured me that he had seen no live fences in that country equal to them. If the book called *Arator*, should awaken the rising generation to the great interest of our country, its defects will speedily be detected by the superior talents, which a just sense of the subject will bring into activity. Exertion is the mother of improvement, and to have been the cause of exciting one gentleman's determination to give efficacy to his talents is highly gratifying, to, Sir,

Your most obd't serv't,

JOHN TAYLOR.

Geo. W. Jeffreys, Esq.

Morticello, March 3d, 1817.

SIR—Your favour of February 17th, came to

hand two days ago. I wish it were in my power to fulfil the request of furnishing you with a full and complete catalogue for an Agricultural Library. For this first and most useful of all human arts and sciences, I have had from earliest life, the strongest partiality. Yet, such have been the circumstance of the times in which I have happened to live, that it has never been in my power to indulge it. My reading in that line, therefore, has been necessarily restrained, and for practice, I have had still less leisure and opportunity until age had deprived me of the activity it called for. The catalogue therefore, now enclosed, is sent rather in proof of my readiness, than of my competence, to serve your society. There is probably no better husbandry known at present, than that of England. But that is, for the climate and productions of England. Their books lay for us a foundation of good general principles; but we ought, for their application, to look more than we have done into the practices of countries, and climates, more homogeneous with our own. I speak as a Southern man. The Agriculture of France and Italy is good, and has been better than at this time; the former in the age of De Serres, the latter in the time of Cato, Varro, &c. Lessons useful to us may also be derived from Greece and Asia Minor, in the times of their eminence in science and population.

I wish I could have been more copious in that part of my catalogue: but my acquaintance with their agricultural writings has not enabled me to be so.

The horizontal ploughing, after which you inquire, has been practised here by Col. Randolph, my son-in-law, who first introduced it about a dozen or fifteen years since. Its advantages were so soon observed, that it has already become very general, and has entirely changed and renovated the face of our country. Every rain before that, while it did a temporary good, did greater permanent evil, by carrying off our soil; and fields were no sooner cleared than wasted. At present we may say that we lose none of our soil: the rain not absorbed in the moment of its fall, being retained in the hollows of the beds, until it can be absorbed. Our practice is, when we first enter on this process, with a rafter level of ten feet span,* to lay off guide lines, conducted horizontally, from one end to the other of the field, and about thirty yards apart. The steps of the level on the ground are marked by a stroke of a hoe, and immediately followed by a plough, to preserve the trace. A man or a boy of twelve or fifteen years old, with the level, and two smaller boys to mark the steps, the one with sticks, the other with a hoe, will do an acre of this an hour, and when once done, it is for ever done. We generally level a field the year it is put into corn, until all have been once levelled. The intermediate furrows are run by the eye of the ploughman, governed by these guide lines, and is so done as to lay the earth in horizontal beds of six feet wide, with deep hollows or water furrows between them, to hold superfluous rain. The inequalities of declivity in the

* A drawing of which may be seen in volume 1, page 358 of this work.

hill, will vary in places the distance of the guide lines, and occasion gores which are thrown into short beds.

As in ploughing very steep hill sides horizontally, the common plough can scarcely throw the furrows up-hill, Colonel Randolph has contrived a very simple alteration of the share, which throws the furrows down-hill both going and coming. It is, as if two shares were welded together, at their straight side, and at a right angle with each other. This turns on its bar as a pivot, so as to lay either share horizontal and the other vertical, and is done by the ploughman in an instant, by a single motion of the hand, at the end of every furrow, I enclose a bit of paper cut into the form of the double share, which being opened, at the fold to a right angle, will give an idea of its general principle. I have transferred this method of ploughing to a possession I have near Lynchburg, ninety miles to the S. W. from this place, where it is spreading rapidly, and will be the salvation of that, as it confessedly has been of this part of the country. Horizontal and deep ploughing, with the use of plaster and clover, which are but beginning to be used here, we believe will restore this part of our country to its original fertility, which was exceeded by no upland in the state. This is the best account I am able to give you of the horizontal ploughing. Poor, as I am, in the practice of Agriculture, and not rich in its theory, I can do no more than prove my wishes to be useful; adding those for the success of your institution—and assurances of my great respect and consideration.

THOMAS JEFFERSON.

CATALOGUE.

- Geoponica Bossi, Niclasii Lipsiae, 1781, or Lat. 2 vols. 8vo.
 Owen's Translation of the Geoponics, Eng. 2 vols. 8vo.
 Scriptores rei rusticae veteres, (Cato, Varro, Columella, Palladius,) the edition published at Leipsic by Schneider, about 1790—9 vols. 8vo.
 Oeconomie rurale de Saboureux, 6 vols. 8vo. [a translation of Cato, Varro, Columella, Palladius.]
 Dickson's Husbandry of the Ancients, 2 vols. 8vo.
 L'Agricoltura del Trinci, 2 vols. 12mo. or 1 vol. 8vo.
 Dictionario D'Agricoltura dal Ronconi, 2 vols. 8vo.
 Reflexions sur L'Agriculture de Naples, par Tuppruti, 8vo.
 Corso di Agricoltura dal Proposito Lastris, 5 vols. 12mo.
 Istruzione elementari di Agricoltura del Fabbri, 8vo.
 Della Coltivazione degli ulivi del vettori, e degli agrumic, 8vo.
 Theatre D'Agriculture de De Serres, 2 vols. 4to. the late edition with modern learned notes.
 Duhamel's Husbandry.
 Rozier,
 [There is a body of French Husbandry published by the Abbi Rozier and others, of high reputation, in 10 or 12 vols. 4to. titles not recollected.]
 Traité de la vigne de Bidet et Duhamel, 2 vols. 12mo.
 Maupin sur la vigne, 8vo.
 Traite sur la vigne, par Chaptal Rozier, Parmentier et Dussieux, 2 vols. 8vo.
 Lasteyrie du Cotomnier et de sa culture, 8vo.
 Daubenton's advice to Shepherds, 8vo. [translated and published in Boston.]
 Lasteyrie sur les betes à laine d'Espagne, 8vo.
 Home's Principles of Agriculture and Vegetation, 8vo.
 Mill's Chemical Elements of Agriculture, 12mo.
 Kirwan on Manures, 12mo.
 Hale's Statical Essays, 2 vols. 8vo.
 Tull's Horse-hoeing Husbandry, 8vo.
 Evelyn's Terra, by Hunter, 4to.
 Hale's Body of Husbandry, 4 vols. 8vo.
 Home's Gentleman Farmer, 8vo.

- Young's Rural Economy, 8vo.
 Young's Farmer's Guide, 8vo.
 Young's Experimental Agriculture, 3 vols. 8vo.
 Young's Travels in France.
 [Young's Annals of Agriculture, and many other works, written merely for money, are scarcely worth buying.—Those here named contain whatever of his is worth having.]
 Brown's Rural Affairs.
 The Rural Socrates.
 Boardley's Essays and Notes on Husbandry, 8vo.
 Taylor's Arator, 12mo.
 Peters' Agricultural Inquiries on Gypsum, 8vo.
 Livingston's Essay on Sheep, 8vo.
 Memoirs of the Philadelphia Agricultural Society, 2 vols. 8vo. [now 4.]
 Transactions of the Agricultural Society of New York, 4to.
 [There are some good works published in the Eastern States, titles unknown.]
 Millar's Gardener's Dictionary, folio.
 Millar's Gardener's Calendar, 8vo. [12mo.]
 Abercrombie's Gardener's pocket Dictionary, 3 vols. [12mo.]
 Every Man his own Gardener, by Mawe, 12mo.
 MacMahon's American Gardener's Calendar, 8vo. [Philadelphia.]
 American Gardener, by Gardiner and Hepburn, 12mo. [Washington.]
 A Treatise on Gardening, by John Randolph, 16's. [Richmond.]
 Culture de la Grosse Asperge de Hollande par Flassier, 12mo.
 De la Brosse de la culture du figuier, 12mo.
 Langley's Pomona, folio.
 Knight on the Apple and Pear, on Cider and Perry, 12mo.
 Forsythe on the culture and management of Fruit Trees, 8vo.
 Evelyn's Sylva.
 Traité sur les Abeilles par della Bocca, 3 vols. 8vo.

Quincy, July 29th, 1817.

DEAR SIR—I have received your letter of the 15th, and rejoice in the establishment of your Society for the promotion of agriculture. Our mother earth is a kind, tender, affectionate parent, who will abundantly reward every filial and rational attention that is paid to her.

But are you not too modest, in behalf of the southern states? Your cotton, your sugar, and your hemp, are improvements, such as the northern states cannot boast; and the Arator of your own Taylor, has not been equalled by any northern individual who has come to my knowledge in the northern states.

My knowledge and experience are extremely superficial, reaching no further than pulverization and manure. Tull and Duhamel which I read 50 or 60 years ago, have been my principal though not infallible guides.

A catalogue of books upon agriculture and horticulture, would be voluminous. I could name from memory a respectable list. But I will submit your letter to Mr. Quincy, the corresponding Secretary to our Massachusetts Agricultural Society, who I dare say will be glad to communicate transactions and experiments with you.

With the best wishes for the success of your Society, and your individual happiness,

I am, sir, your obliged friend,

JOHN ADAMS.

FOR THE AMERICAN FARMER.

MR. SKINNER—

The accompanying memorandums, relate the occurrences of a few days. I hope you may find them worthy of a place in your American

Farmer. My life abounds with similar events, associating, as I do, with the good and wise of my days.

Truly yours,

S. L. MITCHILL.

GEOLOGICAL.

The tooth raised from the depth of Mr. Jeroliman's Sand-stone quarry at Bellville, in Bergen County, ten miles north-west from New York, appears to be of the same species with those found in the marle-pits of Middleton and Freehold in Monmouth, thirty miles south-west. It evidently belonged to the jaw of the unknown and extinct reptile of the Crocodile family, called by the transatlantic naturalists, the animal of Maicestricht. It is white; composed of concentric layers; and more resembling ivory than bone. The enclosing rock, consists of decomposed feldspar, granular quartz, and comminuted mica, may be pronounced to be a modern or alluvial granite.

The specimens of the roof, over laying the vast and valuable beds of coal near the sources of the Schuylkill river in Pennsylvania, are distinctly marked with impressions of Ferns. Some of these equal the size of the largest Polypodes. The pieces of argillaceous schist brought by J. G. Swift and Charles Lass, Esquires, contained capillary plants, very nearly resembling the vegetable impressions in the strata, covering the bodies of coal near Wilkesbare, and in Rhode Island, and all belong to the transition formation, as may be seen in the pieces that I possess. Nothing can surpass the splendid cridescence of the Schuylkill coal.

So the Bones of Land Animals disinterred at East Windsor, for twelve miles north-west of Hartford in Connecticut, and brought to New York by Mr. Ebstworth, show the changes the soil has undergone in the valley watered by Connecticut river. From a depth of twenty feet, and the greater part of the way, through solid sand-rock, have been raised the bones of mammiferous creatures. Professors Smith and Knight of New Haven, have believed those fragments of bones to bear so many marks of approach to the human skeleton, as to render a more minute inquiry, highly expedient; and this it is hoped they will soon be enabled to make, and thereby satisfy or remove all doubts on the subject.

The Hill near Providence city, (R. I.) is known to contain coal and carbonic graphite. between the strata of coal are interposed strata of argillaceous schist, filled with remains of Ferns and PALMO. These lie in all directions, scattered through the mass of rock. By splitting it into fragments, the vegetable relicks make their appearance in substance, and not by mere impression. The noble mount from which there is a delightful north-east prospect of the town, and on which are erected many valuable seats, and also the College edifice, consists of such alternations of schist and coal. Whether wells are opened for water, foundations for buildings, or graves for the dead, parcels of such organic remains are con-

stantly raised by the spade. Indeed, as my friend Joseph Mauran, M. D. observed—Providence hill may be contemplated as the magazine of fuel for future generations of men.

On New-River, (N. C.) about fifty miles from Wilmington, a very singular bone has been discovered, in a state of complete petrification. It is nearly three feet long, and as heavy as a stone. The shape is such as to resemble in some sort the beak of an enormous bird. I consider, however, the *radius*, or principal bone belonging to the *cubitus* of a *cetaceous* animal. The species is probably the *Balæna boops*, or pike-headed whale. It is known to anatomists that whales have no *fins* nor *rays* to them, like fish: on the contrary, instead of pectoral fins, whales have shoulder blades, with bones analogous to the arm of the human being, and to the fore foot of quadrupeds. There is nevertheless this difference, that in the whale, the limb of the anterior extremity is not developed or expanded; but is enclosed or invested in a strong wrapper of membrane and skin. The present specimen, forwarded by Stephen Swain, Esq. evinces the great dereliction of the ocean, along the coast situated between Cape Hatteras and Cape Fear.

Botanical.

By the hand of Stephen L. Shelten, Esquire, comes from Calcutta a parcel of *Teak-seed*, or acorns of the *Teak-tree* (*Teckona*), the valuable timber of India, answering for ship-building, all the purposes of the oak in America. With these came a hundred and twenty parcels of seeds, carefully put up in dry sand. They were despatched by Dr. N. Wallick, the successor of the late justly distinguished Dr. Roxburgh, and now acting Manager of the Botanical Garden, belonging to the English East India Company, near Calcutta. It is the earnest desire of Dr. Wallick to receive American seeds in return; and he complains that many overtures he has made to negotiate such exchanges with New-York, Philadelphia, and other places in Fredonia are fruitless and discouraging. In this age of Agriculture and Rural Improvement, something of reciprocity to the polite and generous efforts of this gentlemen may be expected. His letter now lying before me, seems to reproach our nation, for neglecting that appendage of sovereignty and good administration, a Botanical Garden.

From Firenze, the centre of horticulture and the seat of fine arts, in Tuscany, arrives a packet of books and pamphlets, forwarded through James Ombrosi Esq. from the *Royal and Imperial Academy of the GEORFILI*, in Tuscany; a society established for the improvement of husbandry and rural economy, as long ago, as the time of Cosmo II. It is pleasing to find the Florentines, seeking our acquaintance, and desirous of establishing liberal and advantageous intercourse.

My letter from Governor Cass, of Michigan, informs me of his intended expedition to the source of the Mississippi, by the way of lake Huron, and the southern shore of lake Superior.

I expect, besides the exploration of the country for mines of native copper, and for purpose of military topography, a full herbarium of the plants, growing in the places through which that enterprising gentleman and his associates, shall pass. Should this my expectation be realized, important additions will be made to the Flora of North America.

Zoological.

The fine Tuscan bull brought by Commodore Stewart, from Italy, is highly admired by the connoisseurs. His colour is white and his figure fine. Expectations are rationally entertained, that our kine may be improved by an Italian cross.

Two stallions, of the Arabian blood, one a fine sorrel and the other a good grey, are now offered for advancing the breed of our horses. They have been imported at great expense; and high hopes are entertained of the benefit that will accrue to our equine stock.

A pair of *superb Pheasants*, that arrived in the U. States ship Franklin, will add beauty to the villa on the Delaware, of the gallant Commander, their owner. Should he succeed in adding these to the game-birds we already possess, every ornithologist, and every sportsman will have cause to rejoice.

Productions of the Feejee Island.

Captain Mackay, brings me from Toconroba: 1. *A medal of copper*, in fine preservation, left by Captain Cook, at the Friendly Islands, in 1772, and now brought from Toconroba in Feejee; showing the intercourse to great distances between the people of Polynesia.

2. *Idols, male and female*, in wood, as worshipped by the natives. They are hideously ugly and rude. Where adoration is paid to such trumpery, the aid of enlightened missionaries is called for with a loud voice.

3. Shawls, cloths, and dresses, manufactured of bark, without the aid of the wheel, the loom or the needle. Their materials the inner bark, is similar to that of which the Mexicans made their clothes, and on which they figured their famous painting. I know the exact similitude, from the comparison I have made of these modern fabrics, with the ancient and modern paintings of Mexico, now in my possession. You will instantly discover the bearing of this remark upon the population of those Islands, and of New Spain, evincing the inhabitants to be Malays, or of the Malayain race.

4. Various natural productions of the land and water.

5. A collection of arms and utensils.

Productions of Egypt.

Egypt sends to New York, its mummies and embalmed bodies, that have rested in their catacombs and coffins, for a duration of perhaps three thousand years or more. To the honour of our Mediterranean navigators, as well as others, it ought to be observed, that they almost invariably bring home facts and articles of an interesting and instructive nature. I owe them much, for the pleasure and information they have given me, and which they continue to afford.

Through the Rev'd. Dr. Hall, of the British factory in Leghorn, and William Shafer Esq. our Consul at Algiers, the head of a man, in high

preservation, as a *mummy*, has been brought hither by the intelligent and patriotic commandant of the squadron. It is supposed with strong probability, (the sayings of Rollin and Goldsmith, modern compilers, and of Valerius Maximus and Appian, ancient writers, to the contrary notwithstanding,) that this is the head of CAIUS POMPEIUS, sir named Magnus, the famous Consul and General of Rome. When I held the head in my hand, is this the mouth, I said, which uttered to the old dictator Sylla the words "the rising sun has more adorers than the setting?" Are these the lips which had the presumption to declare, that in whatever part of Italy, their owner stamped with his foot, there would come up legions?"

By the same channel comes an ANUBIS, or *embalmed Dog*, from a deep recess in the Grand Pyramid of Cairo. What a reflection, that those stupendous structures of art should be the sepulchres of beasts, or even be burial places at all! One would suppose they might have been raised for a nobler use.

Treasures of Elba.

The learned and excellent Chaplain Hall, has forwarded the ores of *Ilva*, or *Elba* Isle, in an extensive variety of specimens. This arrival, in some measure, supercedes the necessity of our travelling to Elba, by bringing Elba to us. The splendid forms of iron, the sides of whose chrystals reflect images like mirrors, or refract light like prisms, are hereby displayed in extraordinary elegance. The rare mineral, called *Jenite* or *Yenite*, (after the battle of Jena,) appears in many varieties; and marbles, jaspers, and porphyries, add to the variety and curiosity of the collection.

I was about to write more paragraphs, but am interrupted by your townsman, R. S. Hollins, Esq. just returned from Europe in perfect health; and some other welcome visitors; who bring me a Diploma, certifying that I have been elected a member of the Imperial Academy at Moscow, in Russia.—Farewell.

RULES FOR MILKING COWS.

Cows should be milked three times a day, if fully fed, throughout the summer, and great caution should be exercised by the persons employed, to draw the milk from them completely, not only to increase the quantity of produce, but to preserve its quality. Any portion which may be left in the udder, seems gradually to be absorbed into the system, and no more is formed than enough to supply what is taken away; and by the continuance of the same mode, a yet further diminution of the secretion takes place, until at length scarcely any is produced. This last mode of milking is always practised when it is intended that a cow should be rendered dry.

To prevent snow-water or rain from penetrating the soles of shoes or boots in winter

This simple and effectual remedy is nothing more than a little bees' wax and mutton suet, warmed in a pipkin until in a liquid state, then rub some of it slightly over the edges of the sole where the stitches are, which will repel the wet, and not in the least prevent the blacking from having the usual effect.

Table of contents of the most remarkable Medical Springs in Europe.

CLASS.	NAME.	Highest Temperature. Fahrenheit.	Azotic Gas. Cubic Inches.	Carbonic Acid Gas. Cubic Inches.	Sulphurated Hydrogen Cubic Inches.	Carbonated Soda. Grains.	Neutral purg- ing salts. Grains.	Selenite and earthly carbo- nates. Grains.	Oxyd of Iron. Grains.
	Malvern			uncertain			uncertain	uncertain	
	Holliwell						uncertain	uncertain	
	Bristol	74°	uncertain	3.75			2.81	3.16	
	Matlock	66°		uncertain			uncertain	uncertain	
	Buxton	82°	0.474	uncertain			0.25	1.625	
	Sedlitz			1.			185.6	8.68	
	Epsom						40.?	8.?	
	Sea						237.5	6.	
	Seltzer			17.		4.	17.5	8.	
	Tunbridge		0.675	1.325			0.344	0.156	0.125
	Bath	116°	1.?	1.?			10.?	10.?	uncertain
	Spa			12.79		1.47	4.632	1.47	0.56
	Pymont			26.			7.13	22.975	0.56
	Cheltenham		uncertain	5.687	uncertain		62.125	6.85	0.625
	Scarborough			uncertain			20.	10.	uncertain
	Vichy	120°?		uncertain		uncertain	none	uncertain	uncertain
	Carlsbad	165°		uncertain		11.76	47.04	4.15	uncertain
	Hartfell						none	none	4.815*
	Harrogate		0.875	1.	2.375		91.25	3.	none
	Moffat		0.5	0.625	1.25		4.5	none	none
	Aix	143°		uncertain	uncertain	12.	5.	4.75	none
	Borset	132°		uncertain	uncertain	uncertain	uncertain		none
	Barege	120°			uncertain	2.5	0.5	uncertain	none

* That is 2,94 contained in the sulphat of iron, this salt when cristallized containing 28 per cent. of oxyd of iron, according to Kirwin, and 1,875 additional of oxyd of iron.

The usefulness of the above table is very obvious—and we should be much gratified if we could be furnished by gentlemen residing in their neighbourhood with similar information as to our own Springs—with a view to the formation of a table similar to the above. The invalid might in that case submit the table to his physician—who, understanding his constitution and the nature of his malady, could at once advise him where to seek for health. Instead of acting thus advisedly, with their eyes open—what do they now do? Sick people go at random to Bedford, to York, to Saratoga, to the White Sulphur Springs or elsewhere, without knowing of what the waters are composed and they often lose their time, their money, and their lives—in a blind experiment to ascertain whether the water be salutary or poisonous, under the particular circumstances of their case—water which may be useful in the liver complaint for example, may be highly deleterious in other disorders—yet the sufferers under all, congregate at the same fountain swallowing the bane or antidote as the case may be!!!

TO THE EDITOR OF THE AMERICAN FARMER.
J. S. SKINNER, Esq.

DEAR SIR—Yesterday I ordered my cook to take down and examine my hams, and much to my mortification, in six of them skippers were found, though externally apparently sound.

Oblige me, through your useful paper, and direct in what manner I shall proceed to check from further injury the six hams, and to save the remainder.

A Citizen of Baltimore.

ANSWER—Use elder juice as recommended in page 126 and 127 of the American Farmer, volume 1.

THE FARMER.

BALTIMORE, FRIDAY, JUNE 16, 1820.

In our first volume, we republished from the Intelligencer, eight numbers on the Grape-Vine, its fabrications, climates and region. It is understood, that a revised copy of these papers, with an appropriate introduction, has

been sent by the most respectable hands, to Lexington in Kentucky for republication. It is considered, that the vine has hitherto been most extensively and successfully cultivated in the parallels of latitude of that state, and its neighbour Indiana, wherefore the selection was made of some respectable Lexington Gazette, of extensive Southern and Western circulation, to diffuse the facts and suggestions, concerning the vine throughout our whole region, of that noble plant. We publish this brief notification to our typographical brethren. In all the towns, from the latitude of Pittsburg to the gulf of Mexico, earnestly recommending to them, the early republication of the set of papers on the vine, as relating to an object of culture, worth to France one hundred millions of dollars,—and capable of production on poor, sandy, gravelly, stoney, rocky, hills, ridges and mountains, the most healthy positions in our southern and western states and territories.

Present Prices of Country Produce in this Market.

Actual sales of WHEAT—WHITE, 95 cts. —RED, 90 to

92 cts.—CORN, 46 cts.—HAY, per ton \$18—STRAW, do. \$11 to \$12—FLOUR, from the wagons, \$4 50—WHISKY, from do. 32 to 32½ cts.—BUTTER, pr. lb. 15 cts. EGGS, 12½ cts.—LAMB, per quarter, 37½ to 62½ cts.—VEAL, per lb. 8 cts.—BEEF, prime pieces, 10 cts.—LIVE CATTLE, \$6 to \$8.—NEW POTATOES, per peck, 50 cts. Old do. per bushel, 62½ cts.—STRAWBERRIES, per quart, 12½ cts.—CHERRIES, do. 10 cts.—GREEN PEAS, per peck, 25 cts.—BEANS, per peck, 50 cts.—TAR, \$1 78—TURPENTINE, soft, \$2—SPIRITS do. 30 to 35 cts.—ROBIN, \$1 75 to \$2—PITCH, \$2 50—BEANS, white, \$1 25—BLACK-EYE PEAS, 65 to 70 cts.—Maryland TOBACCO, a few hds. crop, sold on Wednesday last, for \$7, \$10 & 10 75, & \$13.—Virginia TOBACCO, no sales the present week, that we have heard of. Good quality Richmond, new crop, would bring at the present time, from \$8 50 to \$9 50.

Patent Corn Crackers

AND
COFFEE MILLS,

FOR SALE BY

LORKIN & ROGERS, No. 26, Pratt Street.
Also—Orders received for the American Cultivator.
June 16th, 1820.